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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/768,595	01/30/2004	Yaling Fan	STL11288.00	7053

7590 10/12/2005

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EXAMINER	
FIGUEROA, NATALIA	
ART UNIT	**PAPER NUMBER**
2651	

DATE MAILED: 10/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/768,595	FAN ET AL.	
	Examiner	Art Unit	
	Natalia Figueroa	2651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,6-7,10-13,18,20-21 and 23-24* is/are rejected.

7)☒ Claim(s) *2,4-5,8-9,14-17,19-20,22 and 25-27* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 August 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *01/30/2004*.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 30 January 2004 (01/30/2004) is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, 6-7, 20 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Balster et al (USPN 5,818,658), hereinafter Balster.

RE claim 1, Balster discloses a device comprising: a cantilevered head assembly including a cantilevered body and head; and a flow control device to provide blowing or suction from a blower assembly or vacuum assembly proximate to the cantilevered head assembly (abstract, figs. 1-2 and disclosure thereof, and col. 2, lines 51-67).

RE claim 3, Balster further discloses a plurality of cantilevered head assemblies coupled to an actuator having a head stack height and the flow control device includes a nozzle having an elongated outlet having a dimension corresponding to the head stack height (figs. 1-2 and disclosure thereof and col. 2, lines 54-56).

RE claim 6, Balster further discloses that the head of the cantilevered head assembly includes one of a servo head, a write head, a read head or a read/writer head (fig. 2 and disclosure thereof and col. 1, lines 15-18).

Re claim 7, Balster further discloses a flow sensor coupled to a controller operably coupled to the flow control device to provide flow feedback to control operation of the flow control device (col. 3, lines 1-19).

RE claim 20, Balster discloses a method comprising steps of rotating a disc or data storage media to provide a flow path across a cantilevered head assembly (col. 1, lines 19-22); and supplying pressure from a blower assembly or suction or vacuum pressure from a vacuum assembly proximate to the cantilevered head assembly (abstract, figs. 1-2 and disclosure thereof, and col. 2, lines 51-67).

RE claim 23, Balster discloses adjusting pressure parameters of the blower assembly or the vacuum assembly based upon feedback from a flow sensor (col. 3, lines 1-19).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 10-13, 18, 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balster in view of Ahn (USPN 6,259,576).

RE claim 10, Ahn discloses a servo writer apparatus comprising a cantilevered head assembly including a servo head to write a servo pattern or information on a disc or discs supported on a spindle hub (abstract, figs. 1A and 2 and disclosure thereof, and col. 2, lines 52-56 and 60-65). Ahn fails to explicitly teach a flow control device to provide pressure or suction proximate to a flow field of the disc or discs.

However, Balster discloses such flow control on (col. 2, lines 51-67). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to improve the device as disclosed by Ahn with the above teachings from Balster, the motivation being in order to maintain an air bearing that is within a tolerance, hence avoiding errors and disk failure when in operation.

RE claim 11, the combination of Ahn and Balster is relied upon for the same reasons of rejection as stated above. Balster further discloses that the flow control device includes a blower nozzle coupleable to a pressure source or blower to supply pressure (figs. 1-2 and disclosure thereof and col. 2, lines 51-67).

RE claim 12, Balster further discloses a vacuum assembly to provide a vacuum proximate to the flow field (col. 3, lines 1-15).

RE claim 13, Balster further discloses that the flow control device includes a vacuum assembly to provide the suction proximate to the flow field (col. 3, lines 1-15).

RE claim 18, Blaster further discloses a flow sensor to provide flow feedback for the flow control device (col. 3, lines 17-20).

RE claim 21, Balster fails to explicitly teach writing servo information or a servo pattern to the disc or data storage media. However, Ahn discloses such on (abstract, figs. 1A and 2 and disclosure thereof, and col. 2, lines 52-56 and 60-65). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to improve the device as disclosed by Balster with the above teachings from Ahn, the motivation being in order to maintain an air bearing that is within a tolerance, hence avoiding errors and disk failure when in operation.

RE claim 24, the combination of Balster and Ahn is relied upon for the same reasons of rejection as stated above. Balster further discloses loading the disc or data storage media on a spindle hub prior to rotating the disc or data storage media and unloading the disc or data storage media after writing servo information to the disc (or after and before testing, col. 4, lines 17-31).

Allowable Subject Matter

7. Claims 2, 4-5, 8-9, 14-17, 19, 22 and 25-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following documents are cited to further show the state of the art with respect to flow control in storage drives.

a) Dahlenburg et al (USPN 6,937,433): Discloses an airflow control method.

b) Buske et al (USPN 6,900,968): Discloses a servo vibration control method.

c) Toffle et al (USPN 6,445,540): Discloses a vacuum stiffener for an HAD.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalia Figueroa whose telephone number is (571) 272-7554. The examiner can normally be reached on Monday - Thursday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NFM

DAVID HUDSPETH
SUPERVISORY PATENT EXAMINER
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